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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,871	08/03/2001	Arie Cornelis Besemer	B041745JGD/S	5309

466 7590 09/08/2003

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EXAMINER
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MAIER, LEIGH C

ART UNIT	PAPER NUMBER
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1623

DATE MAILED: 09/08/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/830,871

Applicant(s)  
Besemer

Examiner  
Leigh Maier

Art Unit  
1623



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 1/2 MONTH(S) FROM LCM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 15-29 is/are pending in the application.
- 4a) Of the above, claim(s) 22-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-20 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 U.S.C. § 102*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 15-19 are again rejected under 35 U.S.C. 102(b) as being anticipated by LEROY et al (US 3,553,193), as set forth in the previous Office action.

Applicant's arguments filed June 18, 2003 have been fully considered but they are not persuasive.

Applicant notes that LEROY relies on hypobromite oxidation which Applicant contends "primarily leads to oxidation of secondary hydroxyl groups, at position 2 and 3, to keto groups." The examiner does not find support for this mechanism in LEROY or in any other documentary evidence. In response to this alleged mechanism for hypobromite oxidation, the examiner relies on MASKASKY (US 5,607,828). This reference describes ring-opening oxidation of polysaccharides by hypochlorite or hypobromite. See col 8, lines 16, through 65. See especially lines 56-65.

Jow  
Applicant further states that the reference teaches that "non-terminal hydroxyl groups, e.g., those at positions 2 and 3, <sup>can</sup> ~~and~~ only lead to keto groups and not to aldehyde groups." The passage that Applicant cites here is referring only to hydroxyls *in the side chains*, not the ones on

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the ring. As shown in the mechanism outlined by MASKASKY, the oxidant reacts to with the ring hydroxyls in such a way that results in ring-opening.

Claims 15 and 20 are again rejected under 35 U.S.C. 102(b) as being anticipated by BATTISTA et al (US 3,111,513), as set forth in the previous Office action.

Applicant's arguments filed June 18, 2003 have been fully considered but they are not persuasive.

Applicant notes that the reference describes oxidations of cellulose resulting in dialdehydes, and that these dialdehydes do not contain carboxyl groups. These entities were not cited as being relevant to the instant invention. The products cited were those in the examples as being mixed aldehyde- and carboxyl-containing derivatives in the examples.

Applicant further contends that none of the products of BATTISTA exhibit aldehyde groups at the 2,3-positions. The examiner disagrees with the characterization of the reference. Example 1 describes the formation of a dialdehyde product using periodic acid as the oxidant. Example 9 describes using the dialdehyde to prepare a mixed aldehyde and carboxyl derivative.

Applicant also contends that the assertion that the products taught by BATTISTA would have the claimed ratio must be supported by fact and/or technical reasoning. As was discussed in the previous action, the claims recite a range wherein the product ranges from predominantly carboxyl, to predominantly aldehyde. That is, the only product mixtures excluded by the claims are those wherein the oxidized groups are (1) more than 75% carboxyl or (2) more than 80%

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aldehyde. Given the number of exemplified products, the examiner maintains that it appears more likely than not that the products would fall into this range. Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

***Allowable Subject Matter***

Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. While the examiner does not find Applicant's fructan-oxidation mechanism to be convincing, upon reconsideration of SMITS, the examiner notes that SMITS discusses the *possibility* that a mixed aldehyde/carboxyl product could be derived in the process. However, the reference does not exemplify or suggest any motivation for the preparation of such a product. Further regarding the oxidation of fructans: BESEMER et al (US 5,326,864) teaches the oxidation of inulin to prepare a polycarboxy product. See abstract. BOGAERT et al (WO 98/06756) teaches the oxidation of inulin to prepare a dialdehyde product which is then reduced to prepare a polyol product. These references do not teach or fairly suggest the preparation of a mixed product.

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**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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***Examiner's hours, phone & fax numbers***

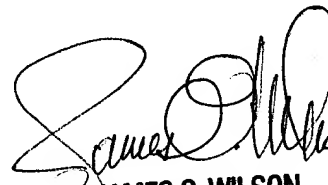
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Maier whose telephone number is (703) 308-4525. The examiner can normally be reached on Tuesday, Wednesday, or Friday 7:00 to 3:30 (ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson (703) 308-4624, may be contacted. The fax phone number for Group 1600, Art Unit 1623 is (703) 308-4556 or 305-3592.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-1235.

Visit the U.S. PTO's site on the World Wide Web at <http://www.uspto.gov>. This site contains lots of valuable information including the latest PTO fees, downloadable forms, basic search capabilities and much more.

Leigh C. Maier  
Patent Examiner  
August 24, 2003

  
JAMES O. WILSON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600